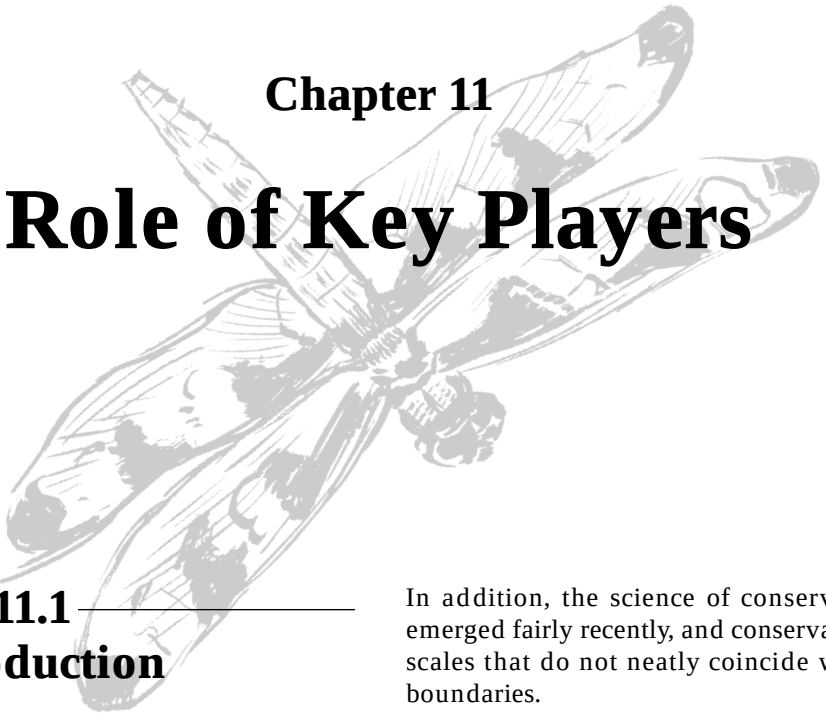
Chapter 11

Role of Key Players



11.1 Introduction

Achieving the objectives of this plan requires the teamwork of many agencies, institutions, corporations, and individuals. This chapter identifies key players and describes their current roles in preserving biodiversity. Except where stated to the contrary, this plan calls upon all of these key players to continue performing their current roles and, in a few instances, to take additional actions. Also, each of the recommendations in the preceding chapters is directed to one or more of the key players identified here. The order of presentation that follows is not intended to suggest relative importance. Those who own and manage sites containing natural communities are obviously central actors, but so too are those who provide the funding, the expertise, and the volunteer hours required to make this plan succeed.

Both governmental and non-governmental organizations are now moving to protect and restore the rich biodiversity of the region. One aspect of this is their cooperation in the development of this plan.

11.2 Role of government agencies

11.2.1 Overview

As the greater Chicago region developed, governments were created and modified to provide desired services: police, fire, transportation, zoning, recreation, pollution control, etc. Only very recently have we realized that some conservation needs are not adequately addressed by existing governmental agencies. No one governmental body has responsibility for conserving biodiversity. In addition, the science of conservation biology has emerged fairly recently, and conservation issues exist on scales that do not neatly coincide with governmental boundaries.

11.2.2 Local governments

Forest preserve and conservation districts

These special districts are among the most important of the many actors involved in biodiversity recovery in the Chicago region, simply because they hold extensive lands containing natural communities. (See Table 11.1.) If this plan is to succeed, these county agencies must continue their selective acquisition efforts and must increase appropriate land management to assure that natural communities are being preserved.

While subject to property-tax caps, most Chicago-area counties have gained or plan to seek voter approval for funding substantially more land acquisition in the coming years. Public support for increased spending on the active management of natural lands is also critically important and may require more extensive public education. An alternative may be legislative relief from caps for this type of expenditure.

The Forest Preserve District of Cook County has not yet announced any referendum. A land-acquisition plan was developed in 1994 and was pending approval by the County Board as of September 1999.

The Forest Preserve District of DuPage County, in the fall of l997, gained voter approval by referendum to spend $75 million for open-space preservation.

The Forest Preserve District of Kane County has spent $23 million over the last five years and plans to preserve another 5,000 acres over the next 20 years. On April 13, 1999, a referendum for $70 million for land acquisition passed by 66%.

Table 11.1
Major Public Land Owning Agencies Information

	FPD of Cook County	FPD of DuPage County	FPD of Kane County	FPD of Will County	Lake County, IL FPD	McHenry County CD	Illinois DNR	Wisconsin DNR	Indiana DNR	US Forest Service	National Park Service
Total acres owned	67,700	23,000	8,000	12,000	20,794	10,800	21,364	6,484	17,285	15,080	10,092
Total acres serving conservation objectives	54,170	19,550	7,200	6,296	17,832	10,200	—	—	—	—	9,120
Acres actively managed	8,041	9,000	<6,000	2,500	8,000	7,191	—	2,836	—	2,940	4,780
Formally protected natural areas	4,359	65	850	2,903	1,579	1,451	4,206	445	2,492	0	9,120
Referendum/bond issue (within past 4 years)	no	yes (1997)	yes (1999)	yes (1999)	yes (1999)	no	n/a	n/a	n/a	n/a	n/a
Monetary amount	n/a	$75M	$70M	$70M	$35M	n/a	n/a	n/a	n/a	n/a	n/a
Desired additional acres through referendum	n/a	2,400	5,000	6,500	4,000	n/a	n/a	n/a	n/a	n/a	n/a
Formally established goal or cap on total land holdings (in acres)	75,000	25,000	13,000	18,500	45,000	—	—	—	—	19,000	n/a

Total acres owned = All of the land holding acres of the agency within Chicago Wilderness region.

Total acres actively managed = This is the land that is being *actively managed* for conservation purposes. This may include removing of invasive species, burning, and other restoration practices.

Total acres of land serving conservation purposes = This is land that is not developed with buildings, parking lots, golf courses, ball fields, etc. It is also not agricultural land, unless it is slated for restoration. However, this land is not necessarily being actively managed. Therefore it is serving conservation purposes and could be actively managed if desired.

Formally protected natural area = For Illinois county lands, this is based on land designated as Nature Preserves or Land and Water Reserves through the INPC.

The Lake County Forest Preserves' referendum on April 13, 1999, passed by 66%, providing $35 million to buy land and $20 million for habitat restoration, trails, and other improvements. A voter-approved 1993 referendum had previously provided $20 million for land acquisition and $10 million for restoration, trails, and improvements.

The McHenry County Conservation District hopes to double its current inventory of 10,500 acres over the next 10 years.

The Forest Preserve District of Will County, on April 13, l999, won 57% voter approval for $70 million to buy 6,500 acres.

Additional roles of forest preserve and conservation districts are public education and outdoor recreation. These roles derive from the statutory responsibilities outlined in their enabling legislation. The districts also serve as primary coordinator of volunteer stewardship and monitoring work on the land they own and manage. Providing such opportunities for public enjoyment, learning, and involvement helps build understanding of the mission of the districts and support for public funding to preserve and restore the districts' lands.

Recommendations

- ✔ In keeping with their central role as land managers, the forest preserve and conservation districts should continue to play lead roles in identifying, evaluating, and acquiring unprotected natural communities within their jurisdictions.
- ✔ Federal and state agencies should support these efforts with funding and technical resources. The most recent example of such a partnership was the Chicago Wilderness collaboration that produced the natural-areas inventory for McHenry County.
- ✔ Forest preserves should use all tools available to add land to their holdings. It is also recommended that existing natural areas be protected from purchase requests by commercial and other interests or conversion to intensive recreational uses.

Park districts

The mission of park districts more heavily emphasizes recreation than does the mission of conservation and forest preserve districts. However, this does not preclude them from making a valuable contribution to the conservation of biodiversity. Many of the 148 park districts in the Illinois portion of Chicago Wilderness have the opportunity to acquire or manage natural communities falling within their jurisdiction. Such sites are sometimes too small to meet the acquisition criteria of the local forest preserve or conservation district. The St. Charles Park District, for example, has adopted policies for preserving and maintaining natural areas and is a leader in restoring natural areas in their ownership. Pilcher Park, an Illinois Natural Areas Inventory site, sets a good example of working with volunteer stewards and with the state Nature Preserves Commission to manage its fine resource. Many park districts, including the Chicago Park District, have become involved in restoring wetlands and in reestablishing native prairies and woodlands. Lake County Parks and Recreation in Crown Point, Indiana, has been actively acquiring and restoring natural areas. Park districts can and should play the important role of educating the public on the importance of maintaining biodiversity.

Like forest preserve districts, park districts are subject to property-tax caps and may have to hold public referenda in order to finance acquisitions or major projects. Public education by all parties regarding the importance of biodiversity can be vitally important to the success of such referenda.

Sanitary districts

The role of sanitary districts in recovering biodiversity is limited principally to the collection, treatment, and discharge of wastewater that meets federal and state standards. Some are also responsible for treating storm water that reaches their plants through combined sewer systems. Hence they have an interest in storm water management. Treated effluent can have major impacts on aquatic biodiversity depending on both its quality and the location of the point of discharge. Unfortunately, the regulatory practices determining discharge locations usually consider only engineering standards such as the availability of stream flow for dilution rather than the impact on the ecology of the receiving stream. The state governments have regulatory authority for discharge locations and limits.

Sanitary districts may also own land that supports significant biodiversity. Such land affords opportunities for partnering with organizations more directly charged with conservation of biodiversity. The largest landowner of this type is the Metropolitan Water Reclamation District, which encompasses most of Cook County. The District has effectively used intergovernmental agreements and other cooperative agreements to enhance the use and maintenance of District lands to support biodiversity. This good practice should be continued and expanded.

Sanitary districts also have indirect impact on biodiversity when extension of their service areas facilitates more intense development. While the primary function of sanitary districts is to provide service, they can work actively with other governmental units that have a more direct

role in directing development and protecting natural areas. Such cooperative effort can be important to protecting biodiversity.

Recommendations

- ✔ Since the concern for maintaining biodiversity is not one of the purposes for which sanitary districts were created, enabling legislation should be amended to specify the authority and obligation of districts to protect biodiversity.
- ✔ In the case of private utility companies that provide wastewater collection and treatment services, and whose franchises are regulated by the Illinois Commerce Commission, a similar broadening of authorizing legislation would be appropriate.

Illinois counties and municipalities

County governments regulate land in unincorporated areas and, in some instances, play important roles in storm-water and/or wastewater management. Municipal governments regulate the use of land and also have the authority to annex new land, typically for the purpose of facilitating new development. A number of municipalities also own and operate their own wastewater treatment systems and therefore can extend sewer service as part of an annexation agreement.

Illinois, with its heavy emphasis on the property and sales taxes to fund municipal governments, has created a strong incentive for municipalities to expand into new areas. Several recent tax-reform initiatives have looked at the problem of over-reliance on the local property tax and have made recommendations that would lessen the incentives for territorial expansion.

Some municipalities operate their own park systems and therefore may be the most appropriate bodies to preserve natural areas within their boundaries. Also, both county and municipal governments have the authority to prepare and adopt comprehensive plans. These plans should identify open spaces meriting preservation and specify who should be responsible for their preservation.

Recommendations

- ✔ Counties and municipalities should amend their comprehensive plans, zoning ordinances, and other regulations to incorporate relevant recommendations contained in this plan.
- ✔ When a state infrastructure investment such as a toll road or major airport is likely to trigger substantial residential, commercial, or industrial development, affected local governments should be required to enter enforceable agreements precluding adverse environmental impacts including the loss of biodiversity.

Northwest Indiana municipalities

The municipalities in Indiana, such as the City of Gary and the City of Hammond, have unique roles in preserving and protecting biodiversity. This stems from the large impact of business and industry in northwestern Indiana. These businesses and industries are key elements of local economies and, in many instances, owners of environmentally sensitive land.

To effectively protect biodiversity in northwestern Indiana, partnerships need to be nurtured among the various agencies of the federal, state, and county governments, city departments, and private organizations that own and oversee land requiring preservation and long-term management. For example, this is important for the City of Gary since it contains portions of the Indiana Dunes National Lakeshore as well as several pieces of dune-and-swale ecosystems that are protected and managed by the Indiana Department of Natural Resources and private conservation groups.

These cooperative partnerships may evolve into comprehensive and cooperative planning and management initiatives among the various agencies, departments, and organizations. At present there is no comprehensive, coordinated, or cooperative relationship between the various habitat managers and landowners in the City of Gary, such as the City Park Department and the Redevelopment Commission.

The cities of northwest Indiana may develop guidelines for the staffs of economic-development departments and planning departments urging them to include, where possible, habitat preservation in development projects that impact sensitive areas and habitat restoration in previously disturbed areas. While these cities are developing the capacity to manage natural resources, state, federal, or private agencies and organizations may assist in providing technical assistance for city-owned natural resources.

Recommendations

- ✔ In northwest Indiana, city departments should enter into partnerships aimed at protecting biodiversity with federal, state, and county agencies and with private organizations that own and oversee land requiring preservation and long-term maintenance.
- ✔ Indiana cities and their regional planning and development agencies should develop a process for taking inventory of natural areas and prioritizing areas for preservation and restoration in conjunction with economic-development initiatives.
- ✔ Indiana cities and their partner agencies should develop plans and allocate funds to preserve land and to manage preserved land consistently.

Special units of government

The Chicago Wilderness region is home to a number of specialized units of government that can play an especially important role in providing for expanded habitat. The argument is often raised that enabling legislation does not specifically identify habitat protection and restoration as an activity of such districts. Yet various governmental bodies nonetheless can play a major role simply by administratively choosing to do so. Thus, the Illinois Department of Transportation plants prairies along its rights of way because it saves maintenance dollars over the long run and the program is well received by the public. Grade schools and high schools plant prairie gardens; community colleges restore large natural areas on their grounds. The Metropolitan Water Reclamation District of Greater Chicago grants long-term, low-cost leases on its important natural areas for habitat management. None of these public agencies are legislatively enabled to accomplish these activities, nor are they legislatively precluded from doing so. They choose to do so for the community good and, often, because it means lower maintenance and operation costs.

Mosquito abatement districts: Alternative approaches to mosquito control that do not harm other fauna need to be identified through round-table discussions among the mosquito abatement districts and Chicago Wilderness representatives.

Drainage districts: Drainage techniques that serve agriculture while also improving habitat, controlling erosion, and controlling storm water should be identified and used along channelized streams managed by drainage districts.

The Fox River Waterway Management Agency: Waterway-management agencies should implement strategies to protect and enhance habitat throughout their jurisdictions, especially for fish migration and spawning, water bird migration and nesting, restoration, control of exotic species, shoreline erosion control, and protection and enhancement of mussel beds.

Illinois Prairie Trail Authority: This authority, representing the five Illinois collar counties, could play an important role in coordinating region-wide public access, education, and activities related to natural areas adjoining the collar-county trail network.

Toll and public highway authorities: Highway authorities can play a leading role in habitat restoration and protection by detaining storm water on site, managing salt use, pursuing environmentally benign alternatives to salt, and using native landscaping within rights of way more extensively.

Illinois International Port District: The Port District includes Lake Calumet, one of the largest and most important habitats for birds and fish in southeast Chicago. There is a need for a long-range management plan, developed with community involvement, to provide a balance between habitat preservation and economic development. Such a plan should deal with restoring water quality and providing access to Lake Calumet for appropriate recreational activities.

11.2.3 State agencies

Illinois Department of Natural Resources

The Illinois Department of Natural Resources (IDNR) has played a lead role in conserving biodiversity in northeastern Illinois by establishing and maintaining the Illinois Natural Areas Inventory (INAI), by acquiring and managing land, and by providing technical assistance to public and private agencies and groups interested in resource conservation. IDNR also administers several grant programs to fund biodiversity-related initiatives. This section describes various IDNR programs.

The **Illinois Natural History Survey** (INHS), founded in 1858, is recognized as the nation's premier natural history survey. INHS scientists study plants and animals and how they interact among the variety of ecosystems. Scientists from the **Illinois Water Survey** and **Geological Survey** also study critical factors involved in ecosystem function such as hydrological patterns and soil structure.

As for land protection, IDNR is the third largest non-federal public landowner in the six-county region (see Table 11.1) with over 21,300 acres of state parks, natural areas, conservation areas, and registered Land and Water Reserves. The Office of Resource Conservation (ORC) and the Office of Land Management and Education (OLME) are responsible for identifying and managing these ecosystems. The Surveys, ORC, and OLME are involved with watershed management, restoration ecology, long-term monitoring of natural communities, controlling invasive species, and fish and wildlife ecology. They foster improved management of the state's biological resources and public appreciation of Illinois's natural heritage.

The **Office of Water Resources** has regulatory responsibilities in stream channels, floodways, and floodplains, along with regulatory authority on wetland projects.

The **Illinois Nature Preserves Commission** works with landowners who wish to voluntarily protect high-quality natural areas as either Illinois Nature Preserves or Registered Illinois Land and Water Reserves. These high-quality natural areas have frequently already been identified on the Illinois Natural Areas Inventory, either as

relatively undisturbed natural plant communities or as habitat for state-listed endangered or threatened species.

Dedication of these natural areas is a legal process whereby the owner voluntarily restricts future uses of the land in perpetuity for the purpose of preserving the land in its natural state. The owner retains custody but relinquishes the right to develop the land or make any changes that negatively affect the natural qualities of the property. Sites dedicated as Illinois Nature Preserves or registered as Illinois Land and Water Reserves are protected under the auspices of the Illinois Natural Areas Preservation Act. That act states that "areas dedicated as nature preserves are hereby declared to be put to their highest, best, and most important use for the public benefit."

After the land is dedicated, it becomes part of a statewide system of nature preserves or land-and-water reserves that is overseen by the Illinois Nature Preserves Commission, a nine-person citizen body appointed by the Governor. To date, 285 sites totaling 37,778 acres have been dedicated as Illinois Nature Preserves, and 33 sites totaling 14,675 acres have been registered as Illinois Land and Water Reserves. Of that total, 106 nature preserves and five land-and-water reserves are located in the six-county region of northeastern Illinois. Nearly half of these protected areas are owned by the county forest preserve and conservation districts. The Illinois Department of Natural Resources, park districts, municipalities, and private parties own the remainder.

Many high-quality natural areas in northeastern Illinois, however, remain unprotected. A number of the high-quality Chicago lake-plain prairies and wetlands, for example, have not been formally protected.

The Nature Preserves Commission staff also provides recommendations and assistance regarding restoration and management of protected sites. The staff also works cooperatively with landowners, municipalities, and regulatory agencies to prevent or minimize impacts associated with changing land uses on Illinois Natural Areas Inventory sites and protected sites.

The Nature Preserves Commission is an important partner in the Volunteer Stewardship Network, providing the legal basis for volunteers to apply herbicides by indemnifying those who become licensed through the state.

The **Illinois Endangered Species Protection Board** is an independent board of nine members appointed by the governor. The board was created by the Illinois Endangered Species Protection Act of 1972 and is dedicated to protecting Illinois's endangered and threatened species. Following from this mandate is the evaluation and listing of animal and plant species as state-endangered or -threatened. The list is updated and published every five years following a two-year review process.

Duties of the board include the following:

- Listing, delisting, or changing the listing status of species of plants and animals
- Advising the Department of Natural Resources on the assistance, protection, conservation, and management of native endangered and threatened plants and animals and their habitats
- Encouraging and promoting research and investigations that determine status of native plants and animals that may be eligible for listing, and promoting research and management that may enhance the possibility of success of a listed species and ultimately lead to recovery and delisting
- Informing the public about matters pertaining to threatened and endangered species
- Working with other agencies and organizations to conserve threatened and endangered plants and animals and their habitats

IDNR has a long record of providing financial support for land acquisition in northeastern Illinois. The department administers the state's **Open Space Lands Acquisition and Development Program** (OSLAD), the **Natural Areas Acquisition and Development Program** (NAAF), **C-2000 Ecosystem Program,** and the **Open Land Trust** (OLT).

OSLAD has helped local park and forest preserve districts acquire and develop substantial open spaces. Funded by the Illinois real-estate transfer tax, OSLAD is budgeted statewide at $17,715,000 for FY 99. In FY 98, applications from local governments in Cook County were approved at a level of $3,925,000, while applicants in the collar counties were awarded $5,466,000. Since its beginning in FY 86 through FY 98, OSLAD has provided $27,735,000 to Cook County applicants and $31,656,000 to the collar counties. OSLAD requires a 100% local match.

NAAF was established in 1989 with a portion of the real-estate transfer tax. The fund is dedicated for acquisition and stewardship of natural areas, including habitat for endangered and threatened species, high-quality natural communities, wetlands, and other areas with unique or unusual qualities of natural heritage. Lands acquired remain in state ownership. Approximately $2 million each year is used for acquisition and stewardship.

C-2000 Ecosystem Program funds watershed- and ecosystem-based local partnerships that seek to maintain and enhance natural areas and coordinate conserva-

tion efforts with other local interest such as business. Among the projects eligible for grants are those for land acquisition or the purchase of conservation easements for the purpose of habitat protection or restoration. Total grants for the statewide program are expected to average $3 million per year. Partnerships within northeastern Illinois include Chicago Wilderness, the Fox River Ecosystem Partnership, Lake Calumet Ecosystem Partnership, Prairie Parklands Partnership, Thorn Creek Ecosystem Partnership, Wisconsin-Upper Des Plaines Partnership, and the Upper DuPage River Coalition.

The C-2000 Ecosystems Program has established pilot projects in four downstate watersheds designed to "fix" local streams by a variety of methods including better land management. These will serve as important case studies for application within the Chicago Wilderness region.

OLT is Governor Ryan's landmark initiative to dedicate $160 million over four years to acquire natural areas and open space and to provide recreational opportunities for the citizens of Illinois. The program will allow the IDNR to acquire land; create a grant program for units of local government to acquire land; and enter into management agreements with not-for-profit organizations on land acquisition.

Recommendation

- ✔ The State of Illinois should continue its grants programs for open space with more funds for acquisition directed to northeastern Illinois. Open Lands Trust Act funds should primarily protect lands with current or potential biodiversity values.
- ✔ The state should continue to acquire high-quality natural areas through the NAAF.

Indiana Department of Natural Resources: Division of Nature Preserves

The Indiana Division of Nature Preserves, within the state Department of Natural Resources, is responsible for inventory, protection, dedication, and management of Indiana's remaining natural areas. In addition, the Indiana Natural Heritage Data Center, within the Division of Nature Preserves, collects, manages, and provides data on Indiana biodiversity, including endangered species, natural communities, and conservation lands in the state.

In the Chicago Wilderness area of northwest Indiana, the Division conducts field inventories for endangered species and natural communities, manages several nature preserves, and works with various conservation partners protecting some of the most diverse natural areas in the state. Two funding sources allow the Division to acquire (or assist in acquiring) natural lands: the Indiana Natural Heritage Protection Campaign and the Indiana Heritage Trust program. The former is a public / private program to fund conservation that has successfully protected the best remaining natural areas across the state. The latter program, which is funded by sale of the environmental license plates, has proven to be one of the most successful conservation-funding programs ever in Indiana.

Wisconsin Department of Natural Resources

The Wisconsin Department of Natural Resources (DNR) has broad responsibility and involvement in managing biodiversity in Wisconsin. It manages the state owned wildlife areas (such as the New Munster Wildlife Area), recreational areas (like the Bong State Recreational Area), and state parks (such as Big Foot Beach State Park). In addition, the Department often works in partnership with other public and private agencies and groups to acquire, preserve, and manage unique sites and natural areas (such as the Chiwaukee Prairie). The Department regulates modifications to waterways and wetlands, establishes and enforces effluent standards for industrial and municipal wastewater facilities, and approves modifications to sewer service areas. Wisconsin DNR oversees local implementation of zoning regulations for floodplains and shores. Wisconsin DNR maintains the Natural Heritage Inventory in Wisconsin and implements the state law on endangered and threatened species.

In May 1995, the Wisconsin DNR issued a report entitled *Wisconsin's Biodiversity as a Management Issue.* This report presented the department's strategy for the conservation of biological diversity. It provided DNR employees with an overview of the issues associated with biodiversity and provided a common point of reference for incorporating the conservation of biodiversity into DNR's management framework. In June 1995, the Wisconsin DNR published a land-use report entitled *Common Ground. Common Ground* focuses specifically on improving DNR programs and policies that relate to making decisions about land use. This report reflects the DNR's desire to have strong public policies that not only protect Wisconsin's environment but also enhance the state's economy and maintain a high quality of life. In 1996, the Wisconsin DNR reorganized so that program implementation and land management are carried out in Geographic Management Units (GMUs). GMUs reflect the natural boundaries provided by watersheds and river basins. The Wisconsin DNR has formed "partnership teams" with the public and private sectors to guide planning and implementation within the GMUs. Wisconsin DNR is currently working on a map of terrestrial ecological regions based on the National Hierarchical Framework of Ecological Units.

Illinois Environmental Protection Agency

The Illinois Environmental Protection Agency (IEPA) regulates waste discharges to water, air, and land. A major role for maintaining biodiversity is oversight of water-quality management planning as mandated by the federal Clean Water Act. In that capacity, IEPA approves the sizing, location, and limits on effluents for sewage-treatment plants. IEPA also determines the boundaries of areas to be served by treatment plants, and it thereby can influence patterns of growth and development.

The Agency also administers the national permit program for storm-water discharges. This program has the potential to significantly reduce the adverse effects of storm-water runoff on the biodiversity of streams. Phase One of the program covers municipal storm-sewer systems that do not receive sanitary sewage and that serve populations of 100,000 or more, construction activities that disturb five acres or more, and numerous industrial activities. In the fall of 1999, Phase Two will extend the program to small municipalities and construction activities disturbing one or more acres of land.

In addition to regulating discharges to streams, IEPA administers state water-quality standards that are set by the Illinois Pollution Control Board to establish conditions that must be maintained in streams. The standards include limits for various chemicals, primarily to protect human health, but also with implications for biodiversity.

IEPA regulation of air pollution and contaminated land also benefits both aquatic and terrestrial biodiversity. A specific aspect of air-pollution control that is important for protection and restoration of biodiversity is the issuance of permits to landowners for conducting prescribed burns.

IEPA's Office of Pollution Prevention encourages businesses to prevent pollution before it becomes a problem. The agency also promotes holistic approaches that eliminate the sources of waste in products, processes, and raw materials.

Illinois Department of Transportation and the Chicago Area Transportation Study

As a major landowner, the Illinois Department of Transportation (IDOT) sets an example when it employs best management practices in its highway design and maintenance. To its credit, IDOT has demonstrated a willingness to establish and maintain native landscaping along many state roads including some in northeastern Illinois.

IDOT, in conjunction with the Chicago Area Transportation Study (CATS), coordinates transportation planning in northeastern Illinois. IDOT is the fiscal agent for federal transportation funding, including planning funds and most roadway funds. CATS is the federally recognized Metropolitan Planning Organization (MPO) for transportation planning for the six-county Chicago region. IDOT and the MPO forum are engaged in studies regarding the pace and direction of suburban metropolitan expansion and the environmental impacts of transportation facility decisions. IDOT does not control or build toll roads.

The CATS 2020 Regional Transportation Plan, adopted in 1997, calls for the widening or extension of several expressways and toll roads, and numerous transit facilities. If built, these projects could affect a number of wetlands and other natural communities.

Recommendation

✔ IDOT should incorporate biodiversity principles into all transportation infrastructure planning and all implementation decisions.

Illinois State Toll Highway Authority

Planning the widening or extension of major toll roads in the Illinois portion of the Chicago Wilderness region is a part of the official regional transportation-planning process. The authorization to build is made solely by the Illinois General Assembly, with actual construction directed by the Illinois State Toll Highway Authority.

One of the most recent major additions to the Chicago-area system of expressways and toll roads is the north-south toll road in DuPage County. The environmental impact statement (EIS) prepared for that project identified a number of potential adverse impacts and proposed remedies. It specifically discussed erosion controls to protect adjacent streams during construction. Implementation of the recommended procedures was spotty, according to several members of the advisory oversight committee.

Recommendation

✔ Future toll-road construction projects must assure full compliance with EIS recommendations.

Illinois Department of Agriculture

This agency supports farmers who participate in conservation programs under federal farm bills and in general habitat restoration. The Illinois Department of Agriculture has sought to curb excessive conversion of farmland to other uses by commenting on proposed actions involving federal or state monies that could cause the loss of farmland. This advisory review is conducted under the authority of the Illinois Farmland Protection Act, PA 82-945. There is some possibility that this act could be used

to block land acquisition by forest preserve districts or other conservation agencies.

Other Illinois legislation pertaining to farmland preservation include: 1) the Agricultural Areas Conservation and Protection Act, PA 81-1173; 2) Protection of Farming Operations from Nuisance Suits, PA 82-509; and 3) Illinois Soil and Water Conservation District Act.

11.2.4 Intergovernmental organizations

In the Chicago Wilderness region, three intergovernmental planning agencies cover multiple counties: 1) the Northeastern Illinois Planning Commission, 2) the Northwestern Indiana Regional Planning Commission, and 3) the Southeastern Wisconsin Regional Planning Commission. Given the cross-section of local governments serving on their boards, they are well positioned to facilitate coordinated, intergovernmental planning and to provide technical assistance on local environmental matters.

Northeastern Illinois Planning Commission

The Northeastern Illinois Planning Commission (NIPC) has a threefold role in preserving biodiversity. First, it develops and adopts regional plans, such as the Regional Greenways Plan, which has been widely accepted and used by local as well as state government. Like the Greenways Plan, the Biodiversity Recovery Plan can set a direction for the region and, once adopted by NIPC, can serve as a guide for municipalities, counties, and other government units. Second, NIPC studies growth and development patterns, and it prepares forecasts for population, households, and employment. In this role, NIPC monitors water quality in streams, lakes, and wetlands, and it promotes good planning and the use of best management practices for these resources. Third, NIPC works with local governments to promote intergovernmental activities through means such as intergovernmental agreements and planning processes for joint areas.

Northwestern Indiana Regional Planning Commission

The Northwestern Indiana Regional Planning Commission (NIRPC) promotes biodiversity through various activities of planning, implementation, and policymaking. As the federally recognized planning organization for Northwest Indiana, NIRPC recently adopted the Vision 2020 Transportation Plan for Northwest Indiana, which incorporates environmental sensitivity, promotes wise use of land, and encourages the use of alternative fuels. NIRPC's Environmental Management Policy Committee serves as a regional advisor and facilitator for discussion and public education on air quality. It also acts as a point of contact for discussion, coordination, and action on a wide range of programs and projects for air, land, and water quality. NIRPC is assisting in the preparation of an inventory and functional assessment of wetlands in the three-county region. It also prepared a management plan for the Trail Creek watershed. NIRPC serves as staff to the Quality of Life Council, a regional roundtable of public and private leaders that promotes sustainable development in Northwest Indiana. NIRPC is currently reactivating its role in community and economic development to promote Smart Growth for the region. NIRPC also provides staff support to two river-basin commissions whose missions include wetland and habitat restoration.

Southeastern Wisconsin Regional Planning Commission

The Southeastern Wisconsin Regional Planning Commission (SEWRPC) is the official area-wide, comprehensive planning agency for southeastern Wisconsin, which comprises Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties. SEWRPC provides the basic information and planning services necessary to solve problems that transcend the boundaries and fiscal capabilities of the region's local units of government.

Since its inception, SEWRPC has placed a high priority on the identification, protection, and wise use of the natural resources of the region. In 1997, the commission completed a *Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin.* This plan is the product of almost ten years of intensive work conducted under the guidance of a Technical Advisory Committee consisting of individuals particularly knowledgeable about the natural areas and the habitats of critical species of the region. Through an extensive inventory, this plan identified all of the high-quality natural areas and habitats of critical species remaining in the seven-county region. It formulated recommendations for the protection, wise use, and proper management of those areas and habitats. This report also provides information to promote sound rural and urban development, avoiding conflicts between development proposals and resource protection.

Municipal associations

Like regional planning commissions, municipal associations facilitate joint action by their member governments. They are usually organized within a single county but can collaborate across county borders when necessary. To date, their chief activities related to the environment have been in the areas of water supply and solid-waste management. Their support of biodiversity recovery as a municipal concern would be very helpful to the objectives of Chicago Wilderness.

11.2.5 Federal administrative agencies

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) carries out a wide array of federal statutes having to do with the physical, chemical, and biological environment. It has major authority to regulate discharges of pollutants to water, air, and land. It regulates these discharges either directly or by delegating authority to those states that demonstrate capacity and willingness. It also has responsibility for research and technology transfer in related areas. Many EPA functions affect biodiversity. Examples include review of environmental impact statements prepared by other federal agencies, incentive programs to address land runoff to surface waters, identification of high-quality wetlands, wetland permit reviews, and wetland enforcement. The agency also has a small pilot program encouraging the use of native plants in private land holdings such as corporate campuses.

U.S. Army Corps of Engineers

The Corps of Engineers, under Section 10 of the Rivers and Harbors Act, regulates construction in navigable waters, including major waterways and Lake Michigan. The Corps also has authority under Section 404 of the Clean Water Act to issue permits for the deposition of dredged and fill materials and for excavation in waters of the United States, which include most wetlands and streams. Wetlands are still vulnerable to deterioration since such activities as vegetation removal, erosion, destruction of buffers, conversion to impoundments, and the discharge of storm water into wetlands are not regulated.

The Corps has the additional authority under Section 206 of the Continuing Authorities Program (Aquatic Ecosystem Restoration) to evaluate, design, and implement solutions to the ongoing loss of biological integrity in and around streams.

The Corps has the authority to grant permits for projects that affect wetlands, provided the impacts are no more than minimal. Mitigation of project impacts is considered as part of the overall evaluation of a project. The Chicago District has developed some innovative practices that have greatly aided the region's ability to improve and restore degraded habitat. Mitigation banks, in-lieu fee programs, and the use of enforcement and noncompliance resolutions to improve impacted habitat are noteworthy. While resources have been somewhat constrained in the last few years, the Corps continues to look for ways to maximize its effectiveness and to develop partnerships with many of the diverse groups involved in wetlands.

U.S. Department of Agriculture: USDA Forest Service

"Caring for the land and serving the people" is the mission of the USDA Forest Service. The Forest Service, through partnerships with state and local natural-resource agencies, works in Northeastern Illinois to manage forests, prairies, and related natural resources for long-term sustainability and for improved quality of life for all citizens. The Chicago area is home to three USDA Forest Service offices: the Midewin National Tallgrass Prairie in Wilmington, the North Central Research Station in Evanston, and the Northeastern Area State and Private Forestry office in Evanston.

The Midewin National Tallgrass Prairie is part of the National Forest System. Administered by the Forest Service in close cooperation with the Illinois Department of Natural Resources, Midewin is the largest piece of protected open space in northeastern Illinois. Although public access to Midewin is currently restricted because of the Army's ongoing cleanup of the former Joliet Arsenal, Midewin's mission is to conserve and enhance native populations of plants and animals, provide opportunities for research and environmental education, support continuing agricultural uses in some areas, and provide a variety of recreation opportunities. Prairie restoration and new research have already begun at Midewin, and opportunities for the public to visit and work on the site will grow over the coming years.

North Central Research Station in Evanston conducts social-science research aimed at managing forest environments for urban populations. Northeastern Area State and Private Forestry provides financial and technical assistance for managing forest ecosystems in populated areas. This assistance includes conservation education, woodland restoration, and management of trees in parklands and streets, as well as management of exotic pests such as the Asian longhorned beetle and gypsy moth.

Natural Resources Conservation Service

The Natural Resources Conservation Service (NRCS) is the federal agency that works with private landowners and communities to achieve their conservation goals through a voluntary approach to land stewardship. NRCS emphasizes voluntary, science-based assistance, partnerships, and cooperative problem solving at the community level. NRCS employees are skilled in many scientific and technical specialties, including soil science, soil conservation, watershed planning, hydrology, and wetland science. Assistance is provided through a network of local field offices.

NRCS can support aspects of the Biodiversity Recovery Plan through its efforts in community assistance and watershed planning. Using the watershed-planning process, community members can determine local priorities for resources and can develop a plan of action that addresses the needs of both the community residents and their environment. In addition to general technical assistance, NRCS provides technical leadership for the many provisions of the 1996 Farm Bill, including the Wetland Reserve Program, Wildlife Habitat Incentives Program, and Conservation Reserve Program. These programs can be used in the protection and restoration of biodiversity in the Chicago Wilderness area.

U.S. Department of Interior: U.S. Fish and Wildlife Service, National Park Service

The U.S. Fish and Wildlife Service operates an Ecological Services field office in northeastern Illinois that implements the Endangered Species Act, including listing, recovery, and consultation. The Service offers consultation to other federal agencies on their permits, licenses, and funded projects. It provides technical and monetary support to private and public landowners for habitat restoration. It also investigates effects of environmental contaminants on fish and wildlife, participates in regional conservation planning, and provides education and outreach to schools and the general public on biodiversity conservation.

The Service also operates the 93 million-acre National Wildlife Refuge system, which provides habitat for migratory birds, endangered species, and other fish and wildlife. The Service could play a major role in the Chicago Wilderness region as a federal landowner, assisting in the acquisition of large parcels necessary to create habitat complexes identified in this plan and restoring habitat for area-sensitive species.

Also within the Department of Interior, the National Park Service maintains the Indiana Dunes National Lakeshore and conducts scientific studies.

U.S. Department of Transportation

The U.S. Department of Transportation provides over $1 billion annually to the Chicago Wilderness region for a variety of programs relating to transportation. The current federal transportation-funding act is called TEA-21, the Transportation Equity Act for the 21st Century. While the bulk of TEA-21 funding locally goes toward maintaining our existing systems of highways and mass transit, funding is also used for acquisition of bicycle- and foot-trail rights of way, historic preservation, beautification programs, landscaping (e.g. natural landscaping) of transportation rights of way, and environmental mitigation. Each of these can help meet some of the biodiversity objectives of Chicago Wilderness.

TEA-21 requires a planning process and a funding process for improving and expanding transportation systems. These processes can provide a mechanism to promote biodiversity recovery, both through the design of new and improved transportation systems and through their consideration of actions to avoid or mitigate environmental damage.

Recommendation

✔ Transportation designers and planners should carefully consider biodiversity in TEA-21 projects for the Chicago Wilderness region.

U.S. Department of Energy

Two Department of Energy (DOE) National Laboratories have extensive land holdings in northeastern Illinois: Argonne National Laboratory and Fermi National Accelerator Laboratory (Fermilab). DOE has devoted resources to establishing and maintaining native species on both properties.

Argonne is a 1500-acre research facility in DuPage County that is surrounded by the Waterfall Glen Forest Preserve. The approximately 700 acres of undeveloped land at Argonne include woodland, wetland, and prairie habitats. Argonne has ecological research capabilities in the areas of mycorrhizal fungi and soil ecology, carbon sequestration, phytoremediation (using plants to concentrate and break down pollutants), and ecological assessment.

Fermilab has one of DOE's seven National Environmental Research Parks (NERPs), representing the tallgrass prairie region for the country. The NERP is an outdoor laboratory, containing over 1000 acres of reconstructed prairie, natural and constructed wetlands, agricultural land, and open water. Since its dedication in 1989, researchers from universities and from other DOE sites (including Argonne) have used the park to conduct more than 40 projects, including investigations of succession, soil structure, and microbial communities, evolution of plant defenses, and predator-prey dynamics, as well as surveys of vertebrates and invertebrates.

11.3 Role of private sector

11.3.1 Non-governmental organizations

The non-governmental organizations of the Chicago region that focus on conservation have demonstrated the flexibility and creativity to contribute to conservation at a high level. With a wide range of missions, they engage in various programs to preserve biodiversity, including direct work on protected natural areas, community-based organizing and education, and advocacy. In addition, they fill in the cracks, clear bottlenecks, and otherwise creatively and adeptly make a difference.

The region's museums, zoos, arboreta, and botanic gardens contribute profoundly to the evolving "conservation culture" of the region. Hundreds of thousands of people annually attend their exhibits and educational events. Their large research staffs, on the cutting edge of conservation around the globe, bring a focus of solid science to the many challenging questions facing conservationists here.

Many conservation organizations are run largely or entirely by volunteers active in their communities on a broad range of issues of conservation, environmental education, and open space. Some of these organizations own and manage local lands for habitat. Many are active in land-use planning and community development.

Some larger organizations with staff play major roles in acquisition of natural lands, conservation science, policy and planning, and volunteer recruitment. They often collaborate with public agencies in highly cost-effective partnerships.

Public participation is often key to the effective functioning of government agencies in a democratic society. Preserve users, neighbors, and other taxpayers have a healthy and growing interest in wise management of conservation lands. Not-for-profit conservation groups have a long and valuable history of advocacy and other forms of public participation that can improve the responsiveness and focus of all types of institutions. Just as volunteer programs have contributed mightily in health, education, and youth sports, volunteer programs in conservation and environmental education have a growing importance. These programs owe their effectiveness to partnerships between governmental and non-governmental organizations.

Non-governmental organizations have also been important in building coalitions and have played important roles in development of Chicago Wilderness itself, Midewin National Tallgrass Prairie, the Volunteer Stewardship Network, and a wide variety of other conservation successes in the region.

11.3.2 Business and industry

Commercial Club of Chicago: Historically, the private, for-profit sector has played an important role in open-space preservation in the Chicago region. The most widely known examples include Aaron Montgomery Ward's defense in the 1890s of Grant Park as "forever open clear and free" and architect Daniel Burnham's *Plan of Chicago,* produced in l909. It is noteworthy that the sponsorship of this "Burnham Plan" came from the Commercial Club of Chicago, an organization representing the leaders of most major corporations and professions in the Chicago region. The introduction to the l970 reprint (Commercial Club of Chicago 1970) includes the following passage by architectural historian Wilbert Hasbrouck, AIA:

> *Two vitally important results of the plan are the development of the lakefront and the extension of the Forest Preserve System of Cook County. Burnham often is given credit for initiating the forest preserves which ring metropolitan Chicago with a green belt…but this basic system had been established before the plan came into being. The concept of the Forest Preserve System was formulated by architect Dwight Heald Perkins, who served his apprenticeship in Burnham's office during the Columbian Exposition. What Burnham did do was to encourage the extension and continuation of the forest districts. There is no question that without the plan, the forest preserves as we know them today would not exist.*

In 1999, the same Commercial Club of Chicago published a sequel to the Burnham Plan, which includes a strong endorsement of Chicago Wilderness (Johnson 1999).

Northwest Indiana Forum: This group, the leading organization of businesses in northwestern Indiana, has played an important role in promoting open-space preservation. It did so by helping to negotiate the settlement of pollution claims by the US EPA against certain local industries. This settlement directed corporate contributions toward the preservation of environmentally important sites rather than the payment of fines.

Homebuilders: Chicago-area homebuilders are in a unique position to promote the conservation of biodiversity by means of good site design and the preservation of open spaces such as wetlands contained on a building site. Some have done so, but many have found it diffi-

cult to find qualified organizations willing to receive and properly manage small open spaces. This issue requires further analysis by Chicago Wilderness members before recommending solutions.

Natural landscaping: Many businesses are also landowners. In the U.S., approximately 20 million acres of lawn are cultivated, covering more land than any single crop. Natural landscaping—using native plants and plant communities in landscaping—is an opportunity to reestablish diverse native plants, thereby inviting the birds and butterflies back home. Using native plants promotes biodiversity and stewardship of our natural heritage. One approach to promoting biodiversity on private lands is "naturalizing" the land using restoration techniques such as planting and prescribed fire. Another approach is using native plants in more formal landscapes in place of turf grasses.

Several corporations in the Chicago region have chosen to use natural landscaping on their own properties. Examples include Sears corporate headquarters in Hoffman Estates, the AT&T corporate campus in Lisle, the Lucent Technologies campus in Naperville, and several right-of-way sites belonging to Commonwealth Edison.

Among the major reasons for natural landscaping is cost saving. Appendix 9 compares costs of the two basic options for landscape design and management. The first option is to plant and maintain hybrid turf grasses and other non-native ornamental plants and trees. These plants are now established throughout the non-agricultural portions of the region, especially in most parks and residential areas and in most commercial and institutional sites. NIPC (1997c) estimates that over a ten-year period, installation and maintenance of Kentucky blue grass cost $59,400 per acre. The second option is to use native plants, and in some cases to restore hydrology, which in turn will support more animals, birds and other native species. The NIPC study estimates that over a ten year period, installation and maintenance of either buffalo grass or prairie grasses and forbs cost under $10,000 per acre.

It is important to note that natural landscaping complements the ecological restoration taking place across the Chicago Wilderness. In natural landscaping, the property owner is concerned primarily with selecting from the palate of native plants and is generally not interested in restoring the hydrology or soils on the site. Nonetheless, replacing the monoculture of lawns with native plants enhances habitat for birds and insects and also provides important public education for broader restoration projects.

11.3.3 Farmland owners

All of the highest quality streams in the Chicago Wilderness region are in primarily agricultural areas, which suggests that most farming in the Chicago region is more compatible with preservation of stream quality than is most suburban development. Croplands intermixed with pasture and woodlands can result in a habitat suitable for certain native bird species, such as meadowlarks, as well as a variety of mammals.

Agricultural areas offer the most feasible opportunity for large-scale expansion of natural areas, although prime farmland should be kept in production where at all possible. In evaluating land for its preservation potential, soil maps can be especially helpful, especially to find hydric soils whose drainage has been altered by drain tiles.

Various techniques to preserve farmland have been developed and applied nationally. In the Chicago area, tax assessments can reflect agricultural land values if the owner agrees not to develop the land for ten years. Kane, McHenry, and Will Counties in northeastern Illinois have defined prime agricultural areas and sought, with mixed success, to keep them from being developed. One tool available to counties is agricultural zoning, but their authority to zone is preempted once a nearby municipality annexes the land. Few municipalities have identified farmlands to be preserved in their comprehensive plans.

One farming practice that can affect biodiversity is the setting aside of certain lands for conservation purposes, using subsidies available under the U.S. Department of Agriculture Conservation Reserve Program (CRP). Currently, 7,348 acres of farmland have been set aside under ten-year contracts in the collar counties of Illinois. CRP has already been shown to help stabilize or even increase previously declining bird populations, including those of Henslow's sparrow, Grasshopper sparrow, and meadowlark. The more recently established Conservation Reserve Enhancement Program (CREP) includes state matching funds for contracts ranging from 15-year to permanent easements. However, in the Illinois portion of Chicago Wilderness, CREP is only available for floodplains and wetlands in the Lower Fox River Valley.

Farmers can also help preserve natural communities by maintaining vegetative filter strips of at least 25 feet adjacent to streams and by keeping livestock waste out of streams. Also, farmers owning wetlands and wood lots containing important native communities can help preserve them by establishing adjacent buffer areas. The federal and state Departments of Agriculture should use educational programs to encourage the application of best management practices to such areas.

11.3.4 Private owners of large, low-density, non-agricultural properties

Many privately owned, non-farm properties scattered throughout the region contain extensive open spaces that support or could support natural communities or at least a variety of native species. Prime examples are the Morton Arboretum, the Marshall Field estate in Lake County, Illinois, and the Max McGraw Wildlife Center in East Dundee. Some newer private housing subdivisions are incorporating open space and natural areas into their design, such as the Prairie Crossing development in Grayslake and the Coffee Creek development in Chesterton. Other examples include golf courses, corporate headquarters such as the Sears property in Hoffman Estates, Tel Labs in Bolingbrook, and private residences on lots of five or more acres. Some, like those mentioned above, are already using native landscaping or managing natural communities within their properties. Their accomplishments should be made more widely known so that other property managers can learn to develop similar strategies. Section 11.3.2 discusses natural landscaping; Appendix 9 details the cost savings it offers.

Any private landowner whose property contains or buffers remnant natural communities can grant protective easements or take other measures to help assure the preservation of biodiversity. Chapter 8 discusses the actions available to private owners.

11.4 Role of volunteers

11.4.1 Importance of volunteers

Volunteerism has a rich history in American tradition. Volunteer firefighters and paramedics continue to play essential roles in many areas even today. Legions of volunteers provide vital assistance in hospitals, museums, botanical gardens, and other institutions across the country.

In the Chicago region, volunteers have played vital roles in preserving biodiversity. Many of the member organizations of Chicago Wilderness involve volunteers in a wide variety of activities, ranging from hands-on restoration through teaching to advocacy. Volunteers often do important work that otherwise would not get done. Crucial management can sometimes be omitted or delayed because there are simply not enough staff resources available. Volunteers are motivated by knowing that species populations will die out without their help. Over the years, restoration volunteers have developed techniques and a culture that makes this work both effective and fun for thousands of people. Many volunteers have developed considerable expertise. These skilled volunteers are an important part of the conservation team of many agencies. There is room for participation by many thousands more volunteers through the various programs of Chicago Wilderness member organizations.

Volunteers provide a major resource as docents, guides, monitors, and workers. Volunteers physically clean up streams, monitor lakes and streams, maintain bird counts, support scientific studies by gathering data, and restore native ecosystems on public land. Restoring ecosystems includes controlling exotic species, removing brush, conducting prescribed burns, and gathering, processing, and planting seeds. Considering the magnitude of the need to manage publicly owned land for biodiversity, a substantial increase in volunteer activity appears to be the only practical option. In fact, one measure of the success of this plan will be the extent to which volunteers are involved in implementing its recommendations.

Chicago-area forest preserve and conservation districts have long recognized how volunteers can help them to carry out their mission. The Illinois Association of Conservation and Forest Preserve Districts has encouraged member districts to emphasize public participation in natural-resource management by providing opportunities for volunteering. The recommendations emphasize that the districts should provide volunteer and service groups with staff support. Volunteers can be an important means of achieving the fundamental goals and purposes of conservation organizations. They are a valuable extension of paid staff and can have a powerful presence because of their numbers, distribution, and willingness to be active after business hours and on weekends.

Volunteer programs are strongest and most effective when they encourage volunteers to be deeply involved and to have a sense of real connection to the places they work. The full potential of volunteers is not simply as laborers, but as self-motivated, creative owners involved in planning, organizing, implementing, and evaluating projects. Empowering volunteers to apply their energy and creativity under the guidance of land-owning organizations offers immense potential. They are stewards of public land, acting on behalf of the public in the public interest.

11.4.2 Strengthening volunteer programs for protection and restoration of biodiversity

Volunteers should be invited to be partners in planning and implementing land management. This strengthens

the ties between volunteers and the host organization and ensures consistency and continuity. Time donated by volunteers should result in accomplishing important additional tasks, not performing work otherwise expected of staff. Thus, the host organization should use volunteer help in defining and building the volunteer program itself.

Recommendations

✔ Land-managing agencies should invite volunteers to be partners both in planning and in implementing land management.

- **Specific actions for host organizations**
  - ✔ Develop a strategy for involving volunteers. Identify functions and tasks to be accomplished by volunteers.
  - ✔ Provide opportunity for personal satisfaction in accomplishing tasks that are needed for restoration. People serve as volunteers because they find satisfaction in the work. Successful volunteer programs build on this fact to accomplish the purposes of the organization.
  - ✔ Remove barriers. Make it easy and inviting for volunteers to contribute time and energy. If requirements and / or qualifications are necessary, provide ways for volunteers to earn them through training or certification based on tests of ability or knowledge.
  - ✔ Provide an organized context for volunteer activities. At a minimum, provide a stable set of ground rules to accommodate volunteer efforts and involve volunteer leaders in developing them.
  - ✔ Encourage volunteers to adopt or take "ownership" for specific functions or places.
  - ✔ Identify a specific person within the host organization as the central contact for volunteers.
  - ✔ Provide recognition for volunteers regularly.
  - ✔ Provide support for a volunteer newsletter and related communications that offer education and information on volunteer opportunities.
  - ✔ Provide tools or other necessary resources where possible.
  - ✔ Provide opportunities for face-to-face contact between volunteer leaders and organization staff.
  - ✔ Provide support with heavy equipment operated by staff if needed and possible.
  - ✔ Develop long-term site plans for restoration and protection and annual work plans for activities to complete them. Include volunteers in the planning process and identify their role clearly.
  - ✔ Have experienced volunteer leaders, trained and certified by the landowning agency, provide on-site supervision of most volunteer activities.
- **Training and certification**
  - ✔ Develop criteria for various functions and tasks and facilitate training to ensure expertise in them.
  - ✔ Certification is appropriate for some activities, including applying herbicide on public land and participating in prescribed burns. In such cases it is important to establish clear requirements and the means of meeting them such as training or testing at convenient times and places.
- **Volunteer leaders**
  - ✔ Leadership among volunteers develops as people gain experience and knowledge. Those willing to accept and provide leadership should be encouraged to do so and should be given added responsibility and recognition.
  - ✔ The Volunteer Stewardship Network (see below) should be supported and recognized as a valuable asset in developing leadership, expertise, and overall membership in conservation programs.

11.4.3 Citizen scientists and the Volunteer Stewardship Network

An important type of volunteer is the citizen scientist, who enjoys learning scientific aspects of the local ecology. Such individuals may become involved in education, monitoring, research, or various stewardship activities. They represent a major resource and are often core members of volunteer programs.

The Volunteer Stewardship Network is an unincorporated organization of self-motivated site stewards and citizen scientist / ecologists who have worked with many land managers to lead ecosystem protection and restoration. These volunteers, who serve as leaders for thousands of other volunteers in our region, work to maintain communication among their groups and to build collective expertise. As volunteers become more invested in the success of natural-areas management and assume leadership roles within the network, they both strengthen the network and increase the number and quality of volunteers.

11.4.4 Examples of successful volunteer programs

One example of a successful volunteer-driven program is the Mighty Acorns. This educational program involves many adult volunteers, working through twelve partner agencies, who work with schools to introduce grade-school children to natural areas and to adopt a field site that they visit three times each year during different seasons. Working in groups of five to seven per adult volunteer, the children participate in restoration work such as removing weeds and brush or gathering and planting seeds. This hands-on approach with ample instruction brings children into contact with nature in a way that most have not experienced.

Other very successful local volunteer programs include the Butterfly Monitoring Network, the Orchid Recovery Project, the Bird Conservation Network, EcoWatch, the Interreligious Sustainability Project, and many groups engaged in on-the-ground ecological restoration in every county in northeastern Illinois as well as several counties in Indiana.

11.5 Conflict resolution and intergovernmental cooperation: recommending a comprehensive process for managing growth

One of the thorniest issues in the management of public lands is how to satisfy competing user groups. Those who enjoy active outdoor recreation such as horseback riding, biking, and field sports often find themselves competing with those who wish to see fragile natural areas left undisturbed. Transportation planning often pits the need for transportation facilities against land-use plans and the need to protect natural resources. Since governmental agencies have an obligation to serve all reasonable interests, the resolution of disputes over use can become an arduous process. Various conflict-resolution processes have been developed, but, at all geographic scales from region-wide transportation planning to site design, the best outcomes usually involve creative planning and compromise among all interested parties. A purpose of this plan is to heighten local officials' understanding of biodiversity and its dependence on place. Officials must know how to value local habitats and ecological functions so that they can be fully considered in dealing with controversies and competing pressures.

Governments, too, frequently compete for land. Annexation disputes and disagreements over proposed uses of land are common. One frequent course of action has been to develop intergovernmental boundary agreements well in advance of actual land development. The municipalities in the corridors for the proposed extensions of the north-south toll road in Lake and Will Counties have recently negotiated non-binding intergovernmental agreements on the future uses of land, including the designation of permanent open spaces. The municipalities in the vicinity of the proposed third airport in Will County have done the same. The effectiveness of these agreements has yet to be tested, as none of these projects has yet received final approval for construction.

To further the goals of this plan and to establish a smart and equitable approach to resolving conflicts, we recommend a coordinated, intergovernmental, region-wide, comprehensive process for managing growth. Appendix 10 contains a recommended set of procedures for establishing and carrying out such a process. To make this recommendation tangible, the Appendix uses an example of planning a transportation corridor. This example illustrates the actions, procedures, and considerations that should be included to ensure careful weighing of a full set of values and outcomes before making decisions. The recommendations in the example apply to residential-area planning, planning for economic development, and open-space planning.